

Chesapeake
Stormwater Summit
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Citizen Preferences over
Non-Hydrological Attributes of
Green Infrastructure

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- Discrete Choice – Stated Preference approach
 - People must choose between two similar neighborhoods
 - Neighborhoods differ only in the design of their stormwater infrastructure (green space)
 - Choices reveal trade-offs between attributes

Landscape Attributes

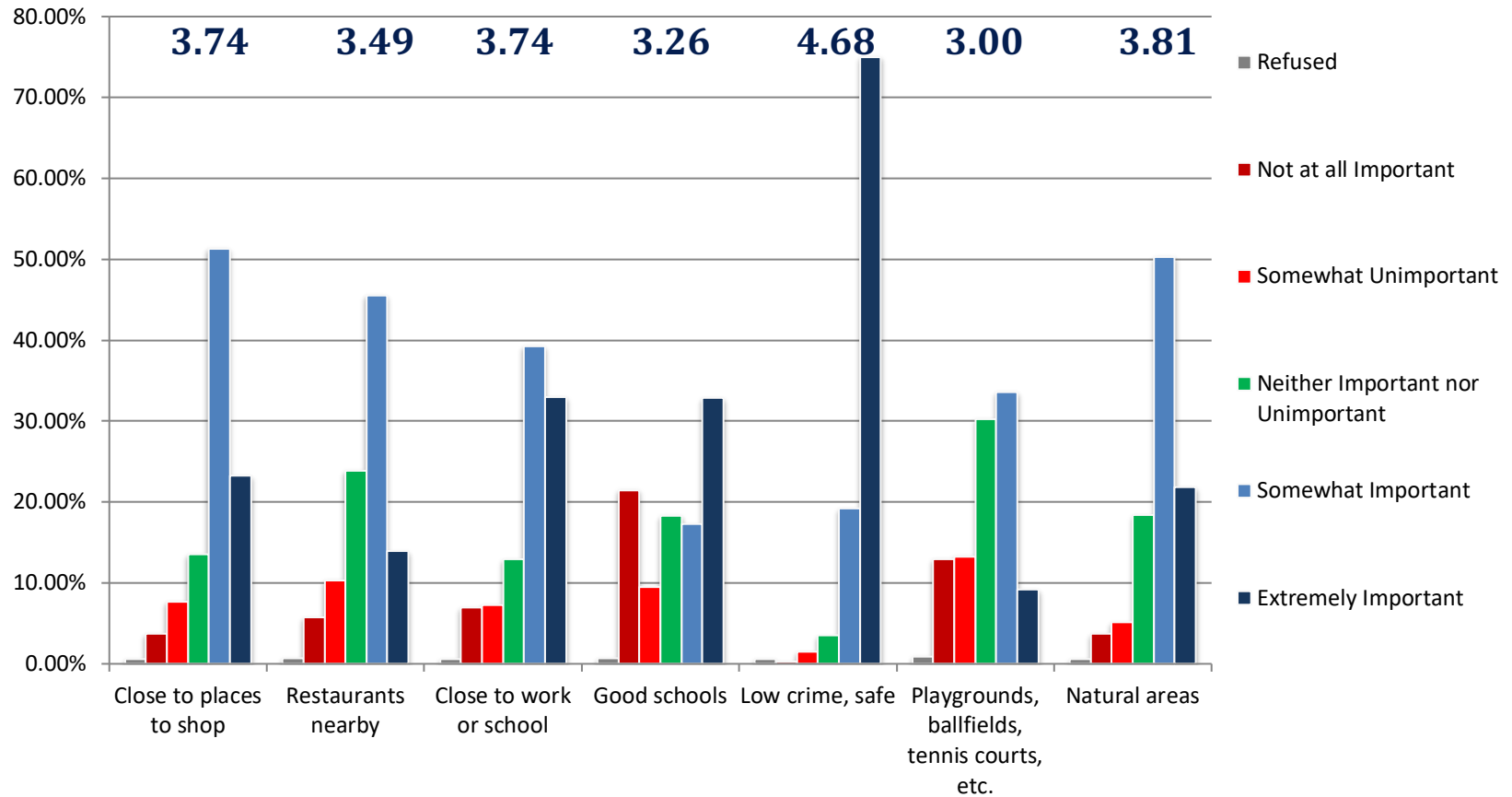
- Green space located within a neighborhood
 - Systematically vary five landscape attributes (four visual)
 - Generate three views of each combination for each of three housing densities

Attributes	Variety in Plant Species	Presence of Standing Water	Percentage of Mowed Area	Formality of Design	Cost/yr
Levels	High	Always	0%	Formal	\$0 - \$110
	Medium	Sometimes	30%	Intermediate	
	Low (Base)	Never (Base)	70%	Informal (Base)	
			100% (Base)		

An example choice question

			
			
			
Neighborhood A		Neighborhood B	
Diversity in Species	Medium	Diversity in Species	Low
Standing Water	Always	Standing Water	Never
Percentage of Green Space Mowed	30%	Percentage of Green Space Mowed	100%
Annual Homeowner Association Fee	\$45	Annual Homeowner Association Fee	\$100
<input type="radio"/>		<input type="radio"/>	

Other than the home itself and how much it costs, what would be the most important things you would think about when choosing a new neighborhood?

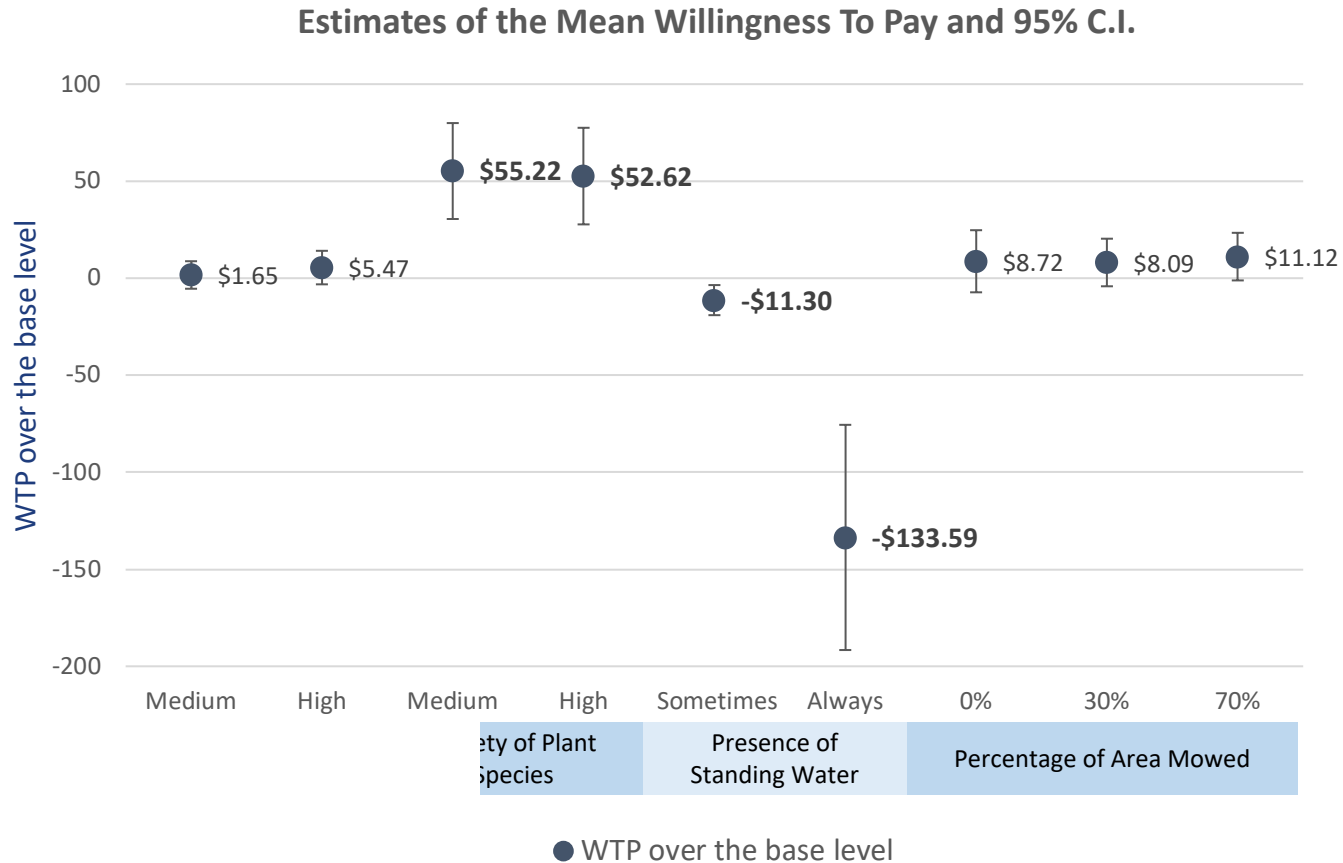


- Strength of preferences

Attribute	Level	Preference
Biodiversity	Medium	1.40 *
	High	1.74 *
Water	Sometimes	-0.73 *
	Always	-3.14 *
Mowed	0%	0.36
	30%	0.61 *
	70%	0.96 *
Geometry	Medium	-0.14 *
	High	0.19
Cost	Dollars	-0.03 *

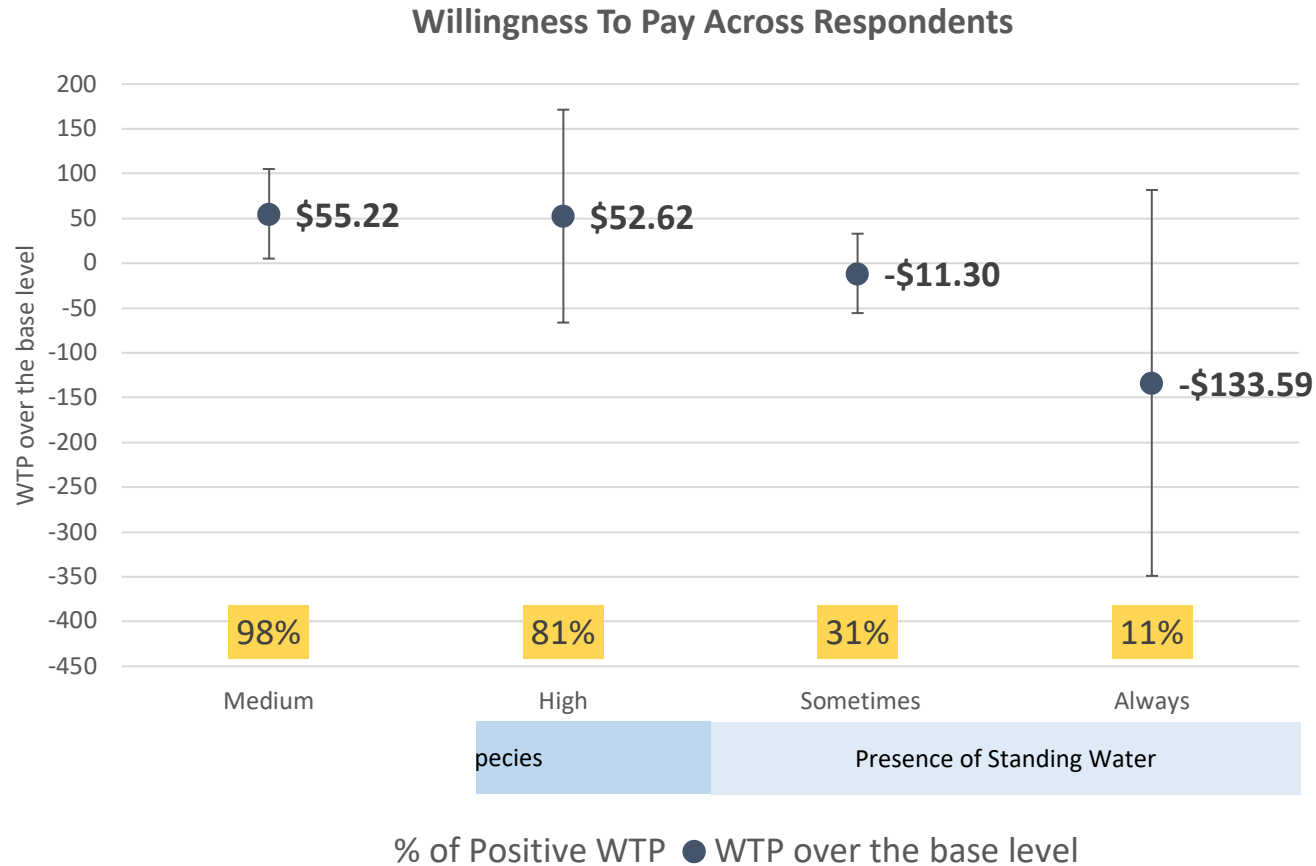
* statistically significant

Willingness to Pay For Landscape Attributes - Mean

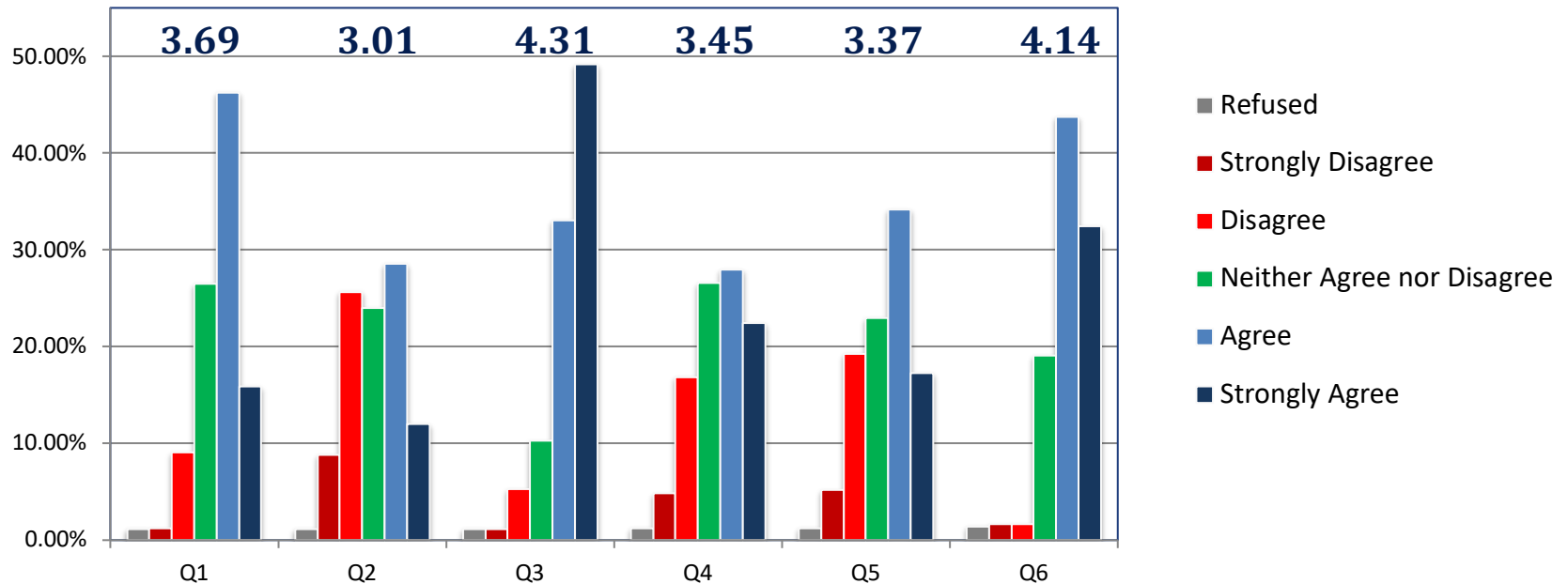


Note: numbers significant different from zero are in bold

Willingness to Pay For Landscape Attributes - Heterogeneity



Question regarding attitude toward green spaces



green spaces that are mowed, so that I can walk through the grass or play games and sports.

I would worry that a green space with tall plants could hide animals that I don't want near my home.

If a green space includes a pool of water, I would worry about mosquitos breeding in it.

If a green space includes a pool of water, I would worry about a child falling in.

If a green space is not mowed, I would worry about it becoming overgrown and wild.

Green spaces should be designed in ways that improve water quality in rivers and streams.

Conclusions

- People don't like to spend money, but money is not the only thing they care about
- People like more biodiversity
- People do not like standing water.
- However, preferences over these two attributes vary across respondents.
- People don't care much about the level of geometry (pattern of green space) or how much area is mowed (except they don't like 100% mowed).